PANGAEA CENTRAL AS THE COMING GLOBAL ACCESS TO LEGAL, SCIENTIFIC AND TECHNICAL INFORMATION THROUGH THE RESOURCE NETWORKS OF INTERGOVERNMENTAL ORGANISATIONS*

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Introduction

From the perspective of the year 2000, we can review the important trends of the past century and make some predictions about the future. Globalisation of trade, the growth of multinational enterprises, partnerships among nations, such as the European Union, and the growing importance of nongovernmental and intergovernmental organisations are realities, which evolved over the past century. The world has started on this course, and followed it through the decades, undergoing in the process an enormous transformation. Concurrent with this sociological transformation, information collection and dissemination have been revolutionised. In this paper, some of the major intergovernmental organisations, the United Nations programmes, are examined for major information trends. With specific concentration upon the Food and Agriculture Organization (FAO), some predictions are made as to changes and trends in information dissemination, which the world, in the 21st century will undergo.

Intergovernmental Information Resources - The United Nations System

The United Nations (UN) and its specialised agencies which constitute the UN system continue to foster global dialogue and development and to work for human rights, justice and peace. To achieve their respective objectives, huge amounts of socio-economic and technical information collections and resources have been developed by each of the UN agencies and indeed by every unit of the United Nations itself. This information is collected and published in vast numbers of no-frills publications, in technical series and reports, many of which are automatically considered grey literature. Although these publications may be deposited and filed in international document collections in libraries around the world, because of their quantity and format or appearance, the incredible richness of their contents may

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remain largely undiscovered. Technology is now helping to unravel the mystery and contents of United Nations and agency documents are being indexed and/or presented electronically in full text to the world. This process will undoubtedly continue to evolve with technology because, as will be seen, the essence of the United Nations is built upon a solid foundation, that of international consensus.

The UN system is sustainable and adaptable because international dialogue and consensus are built into the structure of the United Nations system. The Economic and Social Council, under the overall authority of the General Assembly (made up of representatives of all 188-member nations of the UN), coordinates the economic and social work of the United Nations and the UN family. "As the central forum for discussing international economic and social issues and for formulating policy recommendations, the Council plays a key role in fostering international cooperation for development. It also consults with non-governmental organizations (NGOs), thereby maintaining a vital link between the United Nations and civil society. The Council has 54 members, elected by the General Assembly for three-year terms. It meets throughout the year and holds a major session in July, during which a special meeting of Ministers discusses major economic and social issues. Beginning in 1998, the Council expanded its discussions to include humanitarian themes." [http://www.un.org/Overview/brief.html]

The governing bodies of the UN, established by its founding Charter, work with dozens of other related specialised agencies, funds and programmes, the UN family of organisations, to provide an increasingly cohesive yet diverse programme of action in the fields of peace and security, humanitarian assistance, human rights and economic and social development. The specialised agencies themselves work in areas as diverse as health, finance, agriculture, civil aviation and telecommunications but may all be identified for specific roles they play in providing humanitarian assistance, in development, and in assistance for development. All activities are documented and reported in official reports or technical studies.

Three fourths of the world's people live in developing countries, and 1.3 billion are living in abject poverty. While the world's 24 richest countries taken together have a per capita income of $23,420, the 49 poorest countries have a per capita income of $360 - a ratio of 65 to 1. This gap has been growing wider in recent years, and its closing is one of the fundamental challenges facing the world today. The General Assembly has stressed the need to reshape international economic relations so developing countries can take their just place in the world economy. In a series of ten-year International Development Strategies adopted since 1961, the Assembly has recommended measures to reduce the gap between rich and poor
countries. A round of world conferences has promoted practical ways of solving global problems, by focusing on environment and development (1992), human rights (1993), population and development (1994), social development (1995), the advancement of women (1995), human settlements (1996) and food security (1996). The UN and its agencies are now working with Member States to put into practice the decisions taken at these conferences. Each Conference, past and present prevailing situations and all follow-ups are completely documented and reported.

Development is an activity whereby industry is encouraged to counteract deprived conditions. Assistance for development means providing funding for specific activities or projects, which will stimulate growth or help to solve problems, which prevent growth. Underpinning many of the UN activities is the principle of avoidance of war through social action and the premise that lasting world peace can be realised only through social and economic development for all peoples of the world. This relationship is recognised by the UN Charter, [United Nations website. http://www.un.org ], which assigns to the UN, as one of its main functions, the promotion of higher standards of living, full employment and economic and social progress. Thus a major part of the UN budget and personnel is allocated to numerous programmes aimed at achieving a better life for people everywhere.

Humanitarian assistance is that aid provided to individuals and communities, sometimes-entire nations, in the face of disaster, to assist in basic survival. When countries are stricken by war, famine or natural disaster, specific parts of the United Nations (UN) and its agencies step in to provide humanitarian assistance. Refugees from war zones come under the care of the Office of the United Nations (UN) High Commissioner for Refugees (UNHCR). UNHCR has a special defined role and is responsible for the protection and assistance of over 21 million people around the world who have fled war or persecution, seeking at the same time durable solutions to their plight. In early 1999, UNHCR's major operations were in South Eastern Europe where 800,000 refugees escaped from Kosovo to Albania and the former Yugoslav Republic, resettling in Kosovo again within a four month period. Later in the year Chechnya and East Timor were the most serious emergencies while many other troubled spots such as Sierra Leone, Burundi and Afghanistan required ongoing care.

A number of programmes collaborate to further the UN's economic and social mandate. In the forefront of efforts to bring about social and economic progress is the UN Development Programme (UNDP). The UN's largest multilateral provider of grants for sustainable human development, it has offices in 132 countries and
from them works in 170 countries and territories, to facilitate technical co-
operation. (UNDP website http://www.undp.org/info]. The UN Environment
Programme (UNEP) works to encourage sound environmental practices
everywhere. “To provide leadership and encourage partnership in caring for the
environment by inspiring, informing, and enabling nations and peoples to improve
their quality of life without compromising that of future generations.” [UNEP
website http://www.unep.org ]

Figure 1 shows some of the major agencies and the above-noted relationship to the
General Assembly and Council. As the roles and functions are described and it is
important for the reader to recall that there is transparency. Throughout each
process, there are numerous primary information products, because each process,
each country, the conditions, and the work are completely described and
documented and made evident to the world's national and inter-governmental
bodies as part of the intergovernmental management process.

**Figure 1**

**THE UNITED NATIONS SYSTEM**

![Diagram showing the United Nations system]


Discussed at greater length later in this paper, the FAO, through its field networks
and global warning system detects potential emergencies and contacts the
appropriate agencies. When the situation is extreme, the FAO may also be called
upon by member governments to assist, but normally FAO's role in emergencies is
to help to rebuild the agriculture infrastructure once conditions have begun to return to normal. The World Health Organization, (WHO), is a specialised Organization and it co-ordinates programmes aimed at solving health problems and the attainment by all people of the highest possible level of health: it works in areas such as immunisation, health education and the provision of essential drugs. Famine and disaster relief is provided by the World Food Programme (WFP), which has the world's largest international food aid Organization. In 1999, the WFP raised $1.568 billion for emergency assistance for over 89 million people around the world. [http://www.wfp.org/ ]The World Health Organization (WHO) is a specialised agency, which works with non-governmental organisations and governments during disasters to provide immunisation, health education and the provision of essential drugs. The International Labour Organization (ILO) formulates policies and programmes to improve working conditions and employment opportunities, and defines international labour standards as guidelines for governments. The UN Educational, Scientific and Cultural Organization (UNESCO) promotes education for all, cultural development, protection of the world's natural and cultural heritage, press freedom and communication.

The World Bank group provides loans and the International Monetary Fund (IMF) provides funds to bring about financial stability during financial crisis. The International Fund for Agricultural Development (IFAD) mobilises financial resources for better food production and nutrition among the poor in developing countries. Figure 2 further illustrates the inter-relationships with respect to humanitarian aid. It is also important to comprehend the breadth and depth of information related to each programme and to each country.

**Figure 2**

**UNITED NATIONS - HUMANITARIAN AID**

The Food and Agriculture Organization (FAO) was founded in October 1945 with a mandate to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural populations. The historic milestones are listed in Table 1. Since its inception, FAO has worked to alleviate poverty and hunger by promoting agricultural development, improved nutrition and the pursuit of food security - the access of all people at all times to the food they need for an active and healthy life. The Organization offers direct development assistance, collects, analyses and disseminates information, provides policy and planning advice to governments and acts as an international forum for debate on food and agriculture issues.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>FAO hosts 194 Heads of State or Government at World Food Summit in November to discuss and combat world hunger.</td>
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<tr>
<td>1995</td>
<td>FAO celebrates its 50th birthday</td>
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<tr>
<td>1991</td>
<td>International Plant Protection Convention is ratified with 92 signatories</td>
</tr>
<tr>
<td>1986</td>
<td>AGROSTAT, the world's most comprehensive source of agricultural information and statistics goes operational</td>
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<tr>
<td>1981</td>
<td>The first World Food Day observed on 16 October by more than 150 countries</td>
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<tr>
<td>1980</td>
<td>FAO concludes 56 agreements for the appointment of FAO Representatives in developing member countries</td>
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<tr>
<td>1976</td>
<td>FAO’s Technical Co-operation Programme established to afford greater flexibility in responding to urgent situations</td>
</tr>
<tr>
<td>1974</td>
<td>UN World Food Conference in Rome recommends the adoption of an International Undertaking on World Food Security</td>
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<tr>
<td>1962</td>
<td>The FAO/WHO Codex Alimentarius Commission established to set international food standards becomes operational</td>
</tr>
<tr>
<td>1960</td>
<td>Freedom from Hunger Campaign launched to mobilise non-governmental support</td>
</tr>
<tr>
<td>1951</td>
<td>FAO headquarters moved to Rome from Washington, DC</td>
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<tr>
<td>1945</td>
<td>First session of FAO Conference, Quebec City, Canada, establishes FAO as a specialised United Nations agency</td>
</tr>
<tr>
<td>1943</td>
<td>Forty-four governments, meeting in Hot Springs, Virginia, United States, commit themselves to founding a permanent Organization for food and agriculture</td>
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</table>

Today, FAO has 180 Member Nations plus the EC (Member Organization) and more than 4,300 staff members around the world. Following recent efforts to decentralise, FAO's staff includes almost 2,300 people at Headquarters and more
than 2 000 working at decentralised offices and field projects. The Organization's 2000-2001 biennial budget is set at $650 million and FAO-assisted projects attract more than $300 million per year from donor agencies and governments for investment in agricultural and rural development projects.

Representatives from governments of each of the 180 member nations review the programmes and achievements of the Organization, annually, through the 49 member FAO representative Council and every two years, through the FAO Conference. At this Conference, and at the Committee and Council sessions preceding it, each member country has the right to question, make observations and to vote on whether or not the budget and the programme are acceptable. While all votes are of equal value, assessments are not. A member nation supports the work of the Organization with an annual assessment proportionate to its Gross Domestic Product (GDP).

FAO establishes its plan of work based on its Constitution with the ongoing guidance and approval of its member nations through the Conference and the Council. The responsibilities expressed in the Constitution are carried out through agricultural development assistance whereby FAO gives practical help to developing countries through a wide range of technical assistance projects, through the provision of information and support services, through the provision of advice to governments and through the role of acting as a neutral forum for promoting further action and development.

FAO is active in land and water development, plant and animal production, forestry, fisheries, economic and social policy, investment, nutrition, food standards and commodities and trade. It also plays a major role in dealing with food and agricultural emergencies. A specific priority of the Organization is encouraging sustainable agriculture and rural development, a long-term strategy for the conservation and management of natural resources to meet the needs of both present and future generations through programmes that do not degrade the environment and are technically appropriate, economically viable and socially acceptable.

Priorities are expressed in a very detailed biennial Programme of Work and Budget, which is reviewed by the Council and Conference. Individual Committees on primary technical responsibility areas of commodities, agriculture, fisheries, forestry and food security further review detailed activities and recommend further action.

The work of the Food and Agriculture Organization is governed by the FAO Constitution. This is a formal plan for the Organization written by an Interim Commission set up for this purpose by the 44 nations attending the United Nations
Conference on Food and Agriculture held at Hot Springs, Virginia in 1943. The Constitution reflects the consensus of governments on FAO activities and is shown in Figure 3.

**Figure 3**

**THE FOOD AND AGRICULTURE ORGANIZATION CONSTITUTION**

The Constitution was approved by the Quebec Conference, the first FAO Conference held in 1945, a meeting of the representatives of all the governments.

The Food and Agriculture Organization Conference is the supreme governing and deliberative body of the Organization [Phillips, 1981]. Each member government may send one delegate (Permanent Representative) to the Conference and has one vote. The conference acts on applications for FAO membership, elects...
representatives to the Council, reviews and approves the Organization's programme of work, decides on the level of the budget, sets the scale of contributions, reviews the state of food and agriculture and elects the Director-General of the Organization.

The responsibilities outlined in the Constitution are carried out through development and development assistance programmes, by effecting information and knowledge transfer, by providing advice to governments and through serving as a neutral forum. These services are exhibited in Figure 4 in relation to the Constitution.

**Figure 4**

SCHEMATIC OF CONSTITUTIONAL RESPONSIBILITIES AND SERVICES

[Diagram showing the relationships between constitutional responsibilities and services]

Source: Food and Agriculture Organization. *The Director-General's Programme of Work and Budget, 2000-2001.*
The Organization usually takes one of three roles and documents activities and results in detail: i) implementing its own programme; ii) executing a programme on behalf of other agencies and international donors; or, iii) providing advice and management assistance to national projects. Consensus by client member governments in the objectives and functioning of the Organization is a key to success. This consensus is achieved through the efforts of the Food and Agriculture Organization staff serving as Country Representatives in the specific country as well as the result of consultation and involvement of the Permanent Representatives normally stationed by each country in Rome.

**Development and Development Assistance**

Development and development assistance in agriculture is defined as providing the practical help to farmers in developing countries to make their farms more productive and efficient, now and in the future. This is done by training and funding for a broad range of sustainable agriculture practices and rural development initiatives [FAO website. http://www.fao.org]. In turn this provides an essential foundation for improving the nutrition, food security and standard of living of millions of people living in developing countries.

A broad range of skills is needed to carry out a project effectively and all of the participants have roles to play. One example of such a multidisciplinary programme is that of Integrated Pest Management (IPM). Similarly, another multidisciplinary sustainable project is that of aquaculture in southern Africa, managed by the Fisheries Department, and a number of projects from land tenure to access to funding for women in development, managed by the Sustainable Development Department. [FAO website. http://www.fao.org]

In addition to ensuring adequate food, development, rather than temporary aid, creates employment and generates income through farming, processing and distribution and contributes to overall national development. The development approach provides long-term solutions to the fundamental problems of poverty and hunger. Having a presence in 85 of the developing countries, having good training programmes and training materials support and having technically qualified staff are keys to success in this training and demonstration project work.

In sustainable agricultural development, the Food and Agriculture Organization gives practical help to developing countries through a wide range of technical assistance projects using an integrated approach. Environmental, social and economic considerations are included in the formulation of development projects. In some areas, for example, particular combinations of crops can improve agricultural productivity, provide a source of fuelwood for local villagers, improve soil fertility and reduce the impact of erosion. By combining scientific procedures
and at the same time encouraging people's participation, FAO technical experts draw on local expertise to cooperate in their development activities. New skills, ideas and technologies can thus be introduced in a sustainable way to rural communities. Keys to success are support of member governments, a presence in the developing countries and having a technically qualified staff.

Another key to success is the breadth of products and country coverage. On average, the FAO has some 1,800 field projects operating at any one time, ranging from integrated land management projects to policy and planning advice for governments in areas as diverse as forestry programmes and marketing strategies. Although the Food and Agriculture Organization's budgets are too limited to support these activities, FAO's Investment Centre assists developing countries in formulating investment projects in agricultural and rural development. [FAO website. http://www.fao.org]

**Information and Support Services**

Information services are defined as the broad range of relevant scientific, research and statistical information collected and aggregated by the Organization being made available fairly and equitably to all member nations. Support services encompasses the full spectrum of information collection and dissemination, from creation and aggregation of information in various relevant computer databases to production of various outputs, from CD-ROM and Internet products to a decreasing number of printed publications. [Food and Agriculture Organization. *Programme Implementation Report*, 1996-97]. Knowledge of relevant new methodologies is a vital tool for development. Scientific and technological advances have brought unprecedented changes to agriculture and food production. A key to success is the technical expertise of the Food and Agriculture Organization staff who takes a lead role in transferring this information and related skills to the developing countries.

In addition to encouraging the direct transfer of skills and technology through field projects, FAO undertakes a variety of information and support services. Computer databases are maintained on topics ranging from fish marketing information to trade and production statistics and records of current agricultural research. The FAO's Geographic Information System (GIS) provides data on soils, vegetation cover and other aspects of land use. Satellite imagery is among the many tools used by the Global Information and Early Warning System (GIEWS) to monitor conditions affecting food production and to alert governments and donors to any potential threats. The information gathered by the FAO is made available through
publications, videos, filmstrips and computer disks. A key to success is being able to provide technical information and data in a number of formats.

The Food and Agriculture Organization's information activities also include grassroots communication programmes that reach rural people directly, encouraging community awareness and action on agricultural and environmental issues. Public information campaigns address major issues at a broader level.

FAO's **Global Information and Early Warning System** (GIEWS) monitors the crop and food outlook at global and national levels to detect emerging food shortages and assess possible emergency food requirements. Since its inception in 1975, the System, in addition to its regular reports, issues Special Alerts/Reports to the international community on the deteriorating food supply prospects in various parts of the world.

The System issued warnings of developing drought in southern Africa in 1991/92 and again in 1994/95, some 3-4 months in advance of the harvest. In 1987, GIEWS issued an Alert three months ahead of the harvest on the poor performance of the southwest monsoon in Asia and its implications for regional food supplies. This enabled several countries to make critical decisions on imports and food stocks. The FAO website reports on more recent examples. [http://www.fao.org ]

Here is how GIEWS works: Every day analysts study dozens of indicators that affect food supply. Satellite images and weather station data show how the growing season is progressing in broad areas of the developing world. Socio-economic indicators are monitored. In an emergency, major aid donors and humanitarian organisations are alerted by fax/telex. FAO missions are dispatched to the affected area to confer with local authorities and study the situation first hand. National and international efforts are mobilised to provide food for the hungry and to restore production and distribution.

**FAOSTAT** is another support service, providing an on-line and multilingual database currently containing over 1 million time-series records covering international statistics in the following areas:

<table>
<thead>
<tr>
<th>-Production</th>
<th>- Land Use and Irrigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Trade</td>
<td>- Forest Products</td>
</tr>
<tr>
<td>- Food Balance Sheets</td>
<td>- Fishery Products</td>
</tr>
<tr>
<td>- Food Aid Shipments</td>
<td>- Population</td>
</tr>
<tr>
<td>- Fertilizer and Pesticides</td>
<td>- Agricutural Machinery</td>
</tr>
</tbody>
</table>
Development assistance in agriculture means providing the practical help to farmers in developing countries to make their farms more productive and efficient, now and in the future.

**Examples of development assistance:**
- People's participation in Sri Lanka
- Aquaculture in southern Africa
- Integrated Pest Management (IPM)
- Women in development

This means fostering sustainable agriculture and rural development to provide an essential foundation for improving the nutrition, food security and standard of living of millions of people living in developing countries.

In addition to ensuring adequate food, it creates employment and generates income through farming, processing and distribution sectors and contributes to overall national development. FAO promotes development that provides long-term solutions to the fundamental problems of poverty and hunger.

The phrase 'Advice to Governments' refers to FAO's roles in developing and promoting international standards for food and agriculture and in the provision of sound agricultural and policy advice. Agriculture is one of the foundations of national development because it helps feed a nation's population, provides employment and income and can prove a crucial source of foreign exchange earnings.

FAO works with governments to promote agricultural and rural development and to foster international co-operation on issues such as food standards, fair trade, environmental management and the conservation of genetic resources. FAO gives independent advice on agricultural policy and planning, on the administrative and legal structures needed for development and on ways of ensuring that national strategies are directed towards rural development and the alleviation of poverty.

The Field staff is critical in providing advice at the national level. FAO has Country Representatives covering more than 100 developing countries, providing a direct link to the Organization's resources. FAO also sends missions, often in conjunction with other agencies, to assess resources, offer advice on management strategies, review development programmes and assist in dealing with emergencies.
FAO's mediation at the international level has resulted in a number of intergovernmental agreements, such as the International Undertaking on Plant Genetic Resources and the World Soil Charter. The Organization works to improve regional co-ordination, particularly in the management of shared resources - supporting the Amazonian Co-operation Treaty, for example. Through TCDC, the Organization's programme for technical co-operation among developing countries, FAO identifies opportunities for countries to share expertise.

Another example of advice to governments is the Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture, adopted by 150 countries at the International Technical Conference, and subsequently endorsed by the Conference of Parties to the Convention on Biological Diversity.

A neutral forum refers to the provision of an impartial meeting place for members of the nations of the world, where matters of concern to agriculture and food can be discussed without fear of serious repercussions and conflicts. Such international co-operation is essential for meeting global, regional and national development goals. Shared resources and responsibilities require co-ordinated management strategies and FAO documents and reports on all initiatives.

FAO's role as a neutral forum is also closely related to its role as an adviser to governments. Five specialist committees - on commodities, fisheries, forestry, agriculture and world food security - advise the FAO interim governing body, the Council, on current trends and suggest practical management strategies in their fields of expertise.

The Council, in turn, reports to the FAO Conference, the Organization's supreme governing body. Through the Conference, Member Nations contribute to debate and participate in policy formulation of major food and agriculture issues. Member Nations meeting at the Council commit themselves to supporting developmental initiatives, such as the World Food Security Compact and the International Code of Conduct on the Distribution and Use of Pesticides.

FAO convenes top-level international conferences covering areas of particular concern. In the past, conferences have included the World Food Conference, the World Conference on Agrarian Reform and Rural Development and the World Conference on Fisheries Development and Management. The Organization also hosts regular technical meetings on topics ranging from specific commodities to biodiversity. Focusing on nutrition, FAO joined with the World Health Organization in setting up the December 1992 International Conference on Nutrition to re-awaken global awareness of the most basic human needs and to
ensure that all people have access to the food they need for a healthy, productive life.

World leaders from 186 countries attended the World Food Summit in 1996 and adopted a Plan of Action. The Convention on Biological Diversity, adopted at Rio de Janeiro in 1992, acknowledged and stressed the role of local communities, especially women, in the conservation and sustainable use of biological diversity. As part of the follow-up to the World Food Summit, and as a supplement to its Regular Programme activities, FAO implemented a Special Programme for Food Security, which is now operational in low-income food-deficit countries and under formulation in other countries. The Programme’s guidelines foresee the use of analysis of constraints to food security, with special attention given to the analysis of socio-economic constraints, by gender and by specific groups, in particular with regard to access to technology, land, input, storage, marketing, processing and credit facilities.

**Intergovernmental Information Resources - The Shape of Things to Come**

This brief summary has, it is hoped, described and illustrated the persuasive and pervasive nature of the inter-governmental organisations. Promoting human health, development and dignity, focusing on peace, the United Nations and its agencies are having a net positive effect, influencing increasingly every individual in every walk of life. Given the observation that the structure of the organisations is sustainable, one can predict a continuing and growing influence in the years to come.

Collaboration and co-operation is a key to success within the present United Nations structure. Waste and unnecessary expenditure cannot be tolerated. Member governments are continuously alert for ways to achieve greater efficiencies and expect the same vigilance from the inter-governmental bodies. Within specific disciplines collaboration has allowed great achievements. One specific example among many is the success of Codex Alimentarius, the set of international food standards jointly prepared by the WHO and FAO. These standards help achieve the objectives of both Organisations for they allow maintenance of health and nutritional standards and facilitate international agricultural trade.

Within the information and knowledge management domains, interagency task forces have addressed joint and collaborative projects. Together, the members of the Task Force on Library Management and Standards have created a union web-based database of the depository libraries of the United Nations and the agencies. They have defined best practices, formats and a common carrier for a shared
bibliographic and full text link database, which currently covers seven agencies and is being extended to others. The phased implementation of the Z39.50 standard will allow greater flexibility. They are also working towards a common metadata-indexing scheme to facilitate multi-agency search and retrieval. In the regions, practical ways of collaboration and co-operation are also being sought. One can see the many knowledge-based and economic advantages of these directions and predict that this trend will continue.

Knowledge management has been the favourite phrase of the last decade of this century. As technology evolves to encompass and actualise the vision, undoubtedly it will shape the decades to come. Given the investment in infrastructure now taking place in the developing world, the great technological advances are predicted to take place in these regions. These are the regions also which will have greater percentages of young and energetic populations and the focus of the multinational enterprises, intergovernmental collaboration and non-profit organisations will combine to transform the economies and promote development and expansion. Technologies will evolve to foster distance learning, multilingual communications and true knowledge management, assisting in the economic and social development process. As we work towards making this utopia a reality, we will need to capitalise upon every resource and utilise every inspiration to bridge the gap.

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